STATEMENT OF WORK

FOR

AVIATION COMBINED ARMS TACTICAL TRAINER (AVCATT)

NON-RATED CREW MEMBER MANNED MODULE TRAINER (NCM3)

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Statement of Work
For
Aviation Combined Arms Tactical Trainer (AVCATT)
Non-rated Crew Member Manned Module (NCM3) Trainer

1. SCOPE

This Statement of Work (SOW) defines the effort required for producing, integrating, testing, managing, documenting, and delivering the Aviation Combined Arms Tactical Trainer (AVCATT) Non-rated Crew Member Manned Module (NCM3) trainer. This SOW also describes the design, development, and test of a weapon system upgrade to the first two existing NCM3 units.

1.1 Background

The U.S. Army Training and Doctrine Command (TRADOC) Capabilities Manager Office-Virtual (TCM-V) validated a requirement in the AVCATT Capabilities Production Document (CPD) that the AVCATT Program expand its capabilities to support Army Aviation non-rated crew member (NCM) training. The currently fielded NCM3 units allow Army Standardization Instructors (SIs) to train both the UH-60 and CH-47 non-rated crew members in individual door gunnery, slingload, and hoist related tasks. The NCM3 is also scalable to support crew and collective training when combined with the AVCATT. AVCATT is a mobile and transportable virtual simulation training system designed to provide aviation the capability to conduct realistic, high intensity, task-loaded collective and combined arms training exercises and mission rehearsals.

There are currently two NCM3 units fielded to the Army. One unit is stationed at Fort Drum, New York. The second unit is stationed at Fort Campbell, Kentucky. Both of the NCM3 units have moved on different occasions to support the immediate training needs of the Army. Currently, there are 14 additional NCM3 units under contract. Of these fourteen NCM3 units, eleven will be fielded to Army National Guard locations and three will be fielded to Army Active Component sites. The CPD requirement for NCM3 is a threshold of 23 units (46 manned modules) and an objective of 69 units (138 manned modules).

2.0 APPLICABLE DOCUMENTS

The following documents form a part of this SOW to the extent specified herein. In the event of a conflict between documents referenced herein and the contents of this SOW, the contents of the SOW shall be the governing requirement.

2.1 Department of Defense Standards

MIL-STD-130	Identification Marking of U.S. Military Property
MIL-STD-31000	Technical Data Packages
MIL-STD-40051-2A	Page-Based Technical Manuals
GEIA-HB-0007-A	Handbook, Logistics Product Data
GEIA-STD-0007-A	Specification, Logistics Data Products

Copies available on the WWW at URL: https://assist.dla.mil/quicksearch/

2.2 Department of Defense Directives

DODD 8570.01 Information Assurance (IA) Training, Certification, and Workforce Management

Copies available on the WWW at URL: http://www.dtic.mil/whs/directives/

2.3 Department of Defense Instructions

DODI 8510.01 DOD Information Assurance Certification and Accreditation Process (DIACAP)

Copies available on the WWW at URL: http://www.dtic.mil/whs/directives/

2.4 Other Government Documents, Drawings, and Publications

AR 380.5 Marking and Labeling

Copies available on the WWW at URL
http://www.apd.army.mil/pdffiles/r380_5.pdf
Copies available on the WWW at URL
http://www.apd.army.mil/pdffiles/r25_2.pdf

DA PAM 25-1-2 Information Technology Contingency Planning, 16 November 2006

Copies available on the WWW at URL
http://www.apd.army.mil/pdffiles/p25_1_2.pdf

2.5 NCM3 Documentation and Reference Materials

NCM3 System / Subsystem Specification Version 6.0
NCM3 System/Subsystem Design Document
NCM3 Production Qualification Test (PQT) Procedures
NCM3 Technical Data Package PRF-PT-00593 (Units #1 and #2)
NCM3 Technical Data Package PRF-PT-00594 (Units #3-16)
NCM3 Software (development units #1 and #2)
NCM3 Software (production units #3-16)
Spares list

NCM3_UID_version_1.0
Training Material

*Available upon request from Robert Baird, bob.baird@us.army.mil

2. REQUIREMENTS

The contractor shall produce, build, integrate and deliver a system that meets the requirements as defined in this SOW and the System / Subsystem Specification (SSS) version 6.0. This is a production effort and the contractor shall use the build to print Level III Technical Data Package, (TDP) PRF-PT-00594, provided by the Government. The contractor shall provide all effort, resources, facilities, equipment, and personnel necessary to complete the tasks in this SOW. The contractor shall perform all activities to integrate and assemble the hardware and software to achieve a fully functional system, with all support systems, that performs and operates in accordance with the system specification and contractor generated specifications. The contractor shall verify the complete integration of the hardware and software of each hardware and software subsystem and the overall system through the utilization of formalized test procedures.

(DI-ADMIN-80925) Revisions to Existing Government Documents (System / Subsystem Specification (SSS))

2.1 NCM3 Baseline Delivery

This is a Production effort; therefore, software development is not required unless obsolete or end of life components necessitate changes to the Government furnished software baseline. All software and data described in section 2.5 will be provided to the contractor by the Government. The contractor shall purchase all necessary software licenses. The contractor shall install all software on each of the NCM3 systems. As the NCM3 software is maintained by a third party Post Deployment Software Support (PDSS) contractor, the NCM3 contractor shall have a process that allows for maximum flexibility for integration of new software baselines during integration and testing with other systems/subsystems. The contractor shall be prepared to accept up to five software baselines prior to the Test Readiness Review for each system. The contractor shall test the Government provided software baselines and support technical meetings with the PDSS contractor to discuss any issues found with the software build.

2.2 System Design

This is a Production effort; therefore, software and hardware development and design is not required unless it is required for obsolete or end of life components. For any new design, the contractor shall prepare an Engineering Change Proposal (ECP) and Request for Deviations (RFD). All trainer baselines, ECPs, and deviations shall be documented in the contractor's configuration status accounting database. Any required system design for approved ECPs shall be performed to meet the requirements of this SOW and SSS version 6.0. Selected designs and specifications shall be based on performance, cost,

industry standards, long term availability and supportability. The design shall define the necessary hardware and software required for production Systems.

2.2.1 System Definition

N/A – System is defined.

2.2.2 Hardware Design

The contractor shall integrate and assemble the system hardware that satisfies the requirements stated in the NCM3 SSS 0006. The contractor shall follow TDP PRF-PT-00594 that is provided by the Government.

2.2.3 Hardware and Software Integration

The contractor shall perform all activities to integrate the software provided by the Government with the NCM3 hardware to achieve a fully functional system that performs and operates in accordance with the NCM3 SSS 0006. The contractor shall verify the complete integration of the hardware and software of each hardware and software subsystem and the overall system through the utilization of formalized test procedures. Formal test procedures will be provided by the Government and shall be updated as required by the contractor.

2.2.4 Production Planning

The contractor shall perform production planning to ensure a smooth, timely, and cost effective initiation of production of the NCM3 Hardware. Planning tasks shall include those actions required to ensure the manufacturing processes have been proven, and production facilities, equipment, capability, and capacity are in place to support the required delivery schedule.

2.2.5 Obsolescence and Recurring Manufacturing Support

The contractor shall provide sustaining engineering support to resolve manufacturing problems. As changes become necessary or components become obsolete or reach end of life, the contractor shall recommend changes to the government, which will apply to the baseline and update any elements of the product baseline. The contractor shall inform the Government Integrated Product Team (IPT) of changes that could affect AVCATT or NCM3 software, SE Core products, OneSAF, performance, cost, schedule, or risk before they are implemented. The contractor shall maintain the change history (date, rationale, and authority for each change and all previous baselines). The contractor shall select components that are compatible with the current software baseline. In the event that this is not possible, the PDSS contractor will make the necessary software updates and the new software baseline will be provided to the NCM3 production contractor. The contractor shall work with the PDSS team in IPTs and TIMs to determine the best solution. If required, the contractor shall make their test environment available to the PDSS Government and contractor teams to test all software updates prior to delivery.

2.2.6 System Site Delivery

The contractor shall be responsible for all efforts and resources necessary to produce, install, deliver, and test the NCM3 systems. The contractor shall plan, coordinate, and perform NCM3 system fielding at each site in a manner to facilitate concurrent training activities and necessary concurrent work by the Government, Government support contractors, associate contractors, and others at the site during the fielding at operational sites. Planning shall identify necessary resources and coordination among contractors to accomplish fielding in cooperation with all other activities including training at the fielding location, as described in paragraph 3.3.4. The contractor shall conduct site surveys at each site at least one year prior to the fielding of the NCM3 unit to that site.

(DI-ADMN-80925) Revisions to Existing Government Documents (Trainer Facility Report)

2.2.7 Unique Identification (UID)

In accordance with the currently fielded NCM3 units, the Government will provide the Contractor the list of items requiring unique identification (reference "NCM3_UID_version_1.0"). The contractor shall provide unique item identification, for all identified items delivered. UID marking for each item shall be both machine readable and human readable in accordance with MIL-STD-130, paragraph 5.2.

2.2.8 Technical Data Package (TDP)

The TDP is the technical description of items adequate for supporting an acquisition strategy, production, engineering and logistics support. While this is a production effort and no new design is required, all changes required from obsolescence or approved ECPs shall be reflected in the TDP. The TDP shall disclose complete design, logistics, manufacturing requirements, and the means of measuring compliance with the requirements. Piece part information (drawings, computer aided design files and meta data) and associated lists shall provide the necessary design, engineering, manufacturing, and quality assurance requirements information necessary to enable the procurement or manufacture of an interchangeable item that duplicates the physical and performance characteristics of the original product.

(DI-ADMIN-80925) Revisions to Existing Government Documents (**Commercial Drawings and Associated List)**
(DI-ADMIN-80925) Revisions to Existing Government Documents (Product Drawings and Associated List)

2.3 Integrated Product and Process Management (IPPM)

The contractor shall establish and maintain a management technique that simultaneously integrates all essential acquisition activities through the use of multidisciplinary teams. The contractor shall utilize systems engineering tools and overlay a management concept that encourages the use of IPTs. The contractor's integrated product and process development (IPPD) process shall interact with PEO STRI in its role as a customer and as

the IPPM manager which involve establishing performance requirements, monitoring and managing total program progress and evaluating product quality.

2.3.1 Software Defect Management

The contractor shall document each problem detected in software products. The contractor is not responsible for correcting NCM3 software defects for the production effort. The contractor shall record software defects in a deficiency report (DR) tracking tool. The contractor shall provide the PDSS contractor with information about the software defect. The contractor shall provide a process that allows for flexibility during integration and testing to assist the Government and contractor teams in the testing of DRs that are corrected by the PDSS contractor.

2.3.2 Supportability Analysis and Logistics Management Information

The contractor shall conduct repair level analyses, develop diagnostic, preventative maintenance and repair procedures, conduct facilities analyses, refine hardware and software maintenance and support concepts, and identify support resource requirements including required spares and support equipment for the updates to existing documents. Using SM&R Codes, the contractor shall develop a listing of which items should be repaired and which should be discarded and the level of maintenance at which the repair should be performed with the associated cost. The contractor shall document the following in your integrated database:

a. All input data and their corresponding value and source of the data.

b. Operational scenario modeled, assumptions made, constraints assumed, and non-economic factors imposed.

c. Maintenance alternatives considered.

d. Analytical method and models used to perform the economic evaluations.

e. Discussion of the sensitivity evaluation performed and results obtained.

(DI- ADMIN-80925) Revisions to Existing Government Documents (Logistics Management Information (LMI) Data Product(s))

2.3.3 Technical Publications

This effort is a production effort and should not require any changes to the technical publications.

2.3.4 Training Course

The contractor shall conduct on site operator training concurrent with delivery of each NCM3 system. Training and training products shall be based upon the products from the accepted training documentation on the previous NCM3 production contracts. Existing training material shall be provided to the contractor by the Government. In addition to the on-site training course, system operation and maintenance familiarization shall be provided to the Government designated Contractor Logistics Support organization.

2.3.5 Quality Engineering

The contractor shall establish measurement points that will provide maximum visibility into new and prior processes to ensure contractual requirements are being met. The contractor shall select the proper methods to analyze these processes to continuously improve the system. Metrics shall be developed to assist management visibility into an adequate process control system. The contractor shall utilize a discrepancy tracking system with the ability to produce complete permanent records of all discrepancy or database listing. The contractor shall establish a suspense system to ensure timeliness of analysis and corrective action for discrepancies and risk reduction items.

2.3.5.1 Test Discrepancies

The contractor shall follow an established Test Discrepancy corrective action process to ensure timeliness of analysis and corrective action of each test discrepancy. The contractor shall establish a process to receive test discrepancies from any IPT member and accomplish data entry. Upon closeout of a discrepancy, the contractor's process shall notify the Government designated test director that the discrepancy has been closed and the corrective action taken to correct the discrepancy. The contractor is not responsible for correcting existing discrepancies with the Government provided software.

2.3.6 Information Assurance (IA)

The contractor shall ensure that the NCM3 production is managed in accordance with the NCM3 First Article Baseline Information Assurance objectives, processes and requirements and also in accordance with the Department of Defense Information Assurance Certification and Accreditation Process (DIACAP). While the contractor is not responsible for updating security patches, the contractor shall work with the PDSS contractor to ensure the latest IA security requirements are incorporated prior to fielding. In circumstances where changes are made IAW paragraph 3.2, the contractor shall follow standard DIACAP processes and procedures for CLASSIFIED and SECRET accreditation MAC III to account for all security system changes. This includes selecting validated NIAP and Common Criteria Certified Products. For hardware or software products the contractor shall get approval from the Government prior to purchasing, installing, or integrating the products into the system.

2.3.7 Technical Interchange Meetings (TIMs)

The contractor shall support TIMs. TIMs shall be conducted as required and/or by the request of the Government. TIMs shall be conducted for the purpose of assessing

engineering issues, manufacturing issues, or potential changes that would affect the established production baselines. The contractor shall document the results of the review, including any resulting action items.

2.4 Program Management

The contractor shall organize, coordinate, and control all program activities to ensure compliance with the contract requirements and the timely delivery of the required product. The contractor shall provide the necessary program management, systems engineering, design engineering, materials, services, equipment, facilities, testing, technical, logistics, manufacturing, and clerical support for the efforts described in this SOW. The contractor shall monitor the progress of all the work performed under the contract.

(DI-MGMT-80227) Contractor's Progress, Status and Management Report

2.4.1 Work Scheduling

The contractor shall develop, implement, control, and maintain an Integrated Master Schedule (IMS) that presents their plans and schedules to meet the requirements of this contract. The contractor shall document the planning and scheduling effort, related Government responsibilities, and the interaction for the efforts required for development and delivery of the training products. Contract deliverables, subcontractor schedules, and dates that the contractor needs support from the Government Subject Matter Expert (SME) shall be integrated into the contractor's IMS. The contractor shall construct the IMS to ensure that these milestones are met and to ensure deliveries as required by the contract.

(DI-MGMT-81650) Integrated Master Schedule (IMS)

2.4.2 Financial Management

The contractor shall plan, budget, schedule, and control the resources allocated to meet the requirements of the contract.

2.4.3 Risk Management

The contractor shall conduct risk management to systematically control the uncertainty in the project's ability to meet cost, schedule, and performance objectives. The contractor shall conduct that part of risk management that directly impacts the production effort and involves risk-management preparation, risk identification, risk assessment, risk-handling option assessment, risk analysis, risk mitigation, and risk control. The contractor shall use their internal risk management tools to perform risk management. The contractor shall provide Government insight into their tools, assessment, mitigation, and control techniques. The contractor shall document risk management as part of the Contractor Progress, Status, and Management Report.

2.4.4 Configuration Management

The contractor shall implement a configuration management system for identification, control, configuration status accounting and auditing of all configuration documentation, hardware, and software representing or comprising the product. The contractor shall implement a process to maintain consistency between system requirements, system configuration information, and all relevant information about the system.

2.5 Acceptance Testing

Production Qualification Test (PQT) shall be performed in accordance with accepted NCM3 PQT procedures. Formal test procedures will be provided by the Government to the contractor and modified as necessary to accommodate for approved ECPs, changes due to obsolescence, or other approved deviations. The Government team will monitor the PQT. The contractor shall utilize step-by-step testing operations to be performed on items undergoing testing.

(DI-ADMN-80925) Revisions to Existing Government Documents (Test Procedure)

2.5.1 Test Readiness Review (TRR)

The contractor shall conduct a TRR prior to the start of formal Test Procedure execution. Entrance and exit criteria are described in Appendix A.

2.6 Safety

The contractor shall implement a safety risk management program to ensure the safety of the installation, transportation, maintenance, support and disposal of the NCM3 trainer without any unacceptable safety hazards. The contractor shall identify hazards, assess the risk, track hazards, mitigate hazards, verify corrective actions have been implemented, and verify hazards have been eliminated or reduced to acceptable risk levels. The contractor shall ensure that all information pertinent to the safety of the NCM3 is available for Government review.

2.7 Spares

The contractor shall deliver a complete set of spares concurrent with each system delivery. Spares shall be packed and delivered with each unit to the fielding location or to a depot site specified by the Government. The Government will provide the full list of spares that need to be delivered with each NCM3 unit.

2.8 Contractor Logistics Support (CLS)

The contractor shall allow for the CLS team (Government and contractor) to work in their facility at least 30 days prior to PQT until fielding to observe and learn about the NCM3 if requested by the Government. The CLS team will be from the PEO STRI PM Field OPS Warfighter FOCUS contractor.

3. NCM3 Units 1 and 2 Weapons System Upgrade

For the first two fielded NCM3 units (1 and 2), the contractor shall replace the current pneumatic recoil weapon solution with an electric solution. The Government will provide the existing software and TDPs to complete this effort. Note – the contractor will be given both TDP PRF-PT-00593 and software for NCM3 units 1 and 2 with the pneumatic solution and TDP PRF-PT-00594 and software for production with the electric solution. The upgrade shall include a removal of the current weapon system in place, the current supporting pneumatic recoil system in place, other current subsystems in place, and current spares in place. The contractor shall design, develop, implement, and test all necessary changes to the existing NCM3 units to satisfy additional space for hardware, air flow, and electrical wiring to implement the current electric weapon design that will affect NCM3 units 1 and 2. Existing power requirements' constraints must remain the same i.e. the new weapon and weapon systems must function within the existing trailer and trailer power distribution systems. Note – The power requirements for the Environmental Control System (ECS) and the trailer electronics were reversed between the NCM3 units 1 and 2 and the production units to accommodate for the electric weapon solution. The contractor shall be responsible for any modifications required for the trailer, wiring, mounting provisions, installation, and any other subsystems necessary for installation and function of the new weapon system. The location of the upgrade will be determined by the contractor, however if relocation of the trailers from the fielded site is required the contractor is required to provide all resources to complete the move. The maximum duration that NCM3 units 1 and 2 can be moved from site is eight weeks each. The CLS crew will not support the NCM3 while it is not at the current site. The contractor shall conduct a Critical Design Review (CDR) for Government review of all weapons system upgrade design prior to finalizing the design.

3.1 Software Design for Weapon Upgrade

All production and development baseline software and data described in section 2.5 shall be provided to the contractor by the Government. The contractor shall add weapons software from the production baseline to the development baseline and make any required changes necessary to ensure the weapons solution software works with NCM3 units 1 and 2.

3.1.1 Software Design and Implementation

If necessary, the contractor shall design software to perform unit testing to meet system requirements. The contractor shall document all new design and any changes to the software design and the interface design in the NCM3 design documentation. The contractor shall document the compilation, build, modification, and installation procedures and identify all hardware, software, and tools necessary to develop deployable software from source code and data. The contractor shall deliver all new software to the PDSS contractor.

(DI-ADMIN-80925) Revisions to Existing Government Documents (Software Design Description (SDD))

(DI-ADMIN-80925) Revisions to Existing Government Documents (Interface Design Description (IDD))
(DI -ADMIN-80925) Revisions to Existing Government Documents (Software Product Specification (SPS))
(DI -ADMIN-80925) Revisions to Existing Government Documents (Software Version Description (SVD))

3.1.2 Hardware Design

The contractor shall integrate and assemble the weapon system hardware specified in TDP PRF-PT-00594 provided by the Government. The contractor shall design the installation of the hardware into NCM3 units 1 and 2. The contractor shall maximize the use of commercial and non-developmental items. The contractor shall apply the systems engineering process to design the changes to the existing NCM3 units to ensure the Government provided software solution and TDP for the weapons solution is met. The contractor shall update units 1 and 2 TDP PRF-PT-00593 to reflect the design changes made to each NCM3 unit to meet this requirement.

3.1.3 Hardware and Software Integration

The contractor shall perform all activities to integrate the Government provided software with the NCM3 hardware to achieve a fully functional system that performs and operates in accordance with the NCM3 System Specification and contractor generated specifications. The contractor shall verify the complete integration of the hardware and software of each hardware and software subsystem and the overall system through the utilization of Software Test Descriptions and formalized test procedures.

3.2 Logistics Management

The contractor shall ensure the operational and maintenance supportability of the system through planning, implementation and verification of materials and services to meet the operational requirements due to obsolescence. Readiness, Availability, and Supportability shall be the primary design factors.

(DI- ADMIN-80925) Revisions to Existing Government Documents (Logistics Management Information (LMI) Data Product(s))

3.2.1 Technical Publications

The contractor shall describe each operation and maintenance task in detail and in logical, systematic steps for the work to be accomplished. The operations and maintenance instructions shall accurately provide the technician with all the information needed to keep the equipment operational. It shall provide system and subsystem oriented instructions for installation, operation, maintenance, and testing. The contractor shall describe cold start and system initialization processes for each system/subsystem to include all configuration setup options, settings, and system requirements necessary to establish the system/subsystem to the documented product baseline. All tools, test equipment and consumable items required to accomplish any maintenance or installation

shall be identified just prior to and as part of the task. Government furnished material, Government technical manuals or Government-approved commercial operation and maintenance manuals shall be used as references for system and subsystem maintenance. All manuals shall be reviewed to ensure changes, updates, revisions, or supplementation is not required to reflect the components actually being installed. All publications shall reflect the configuration of fielded hardware as documented in the product baseline.

(Annex to Exhibit C) Commercial Off-the-Shelf (COTS) Manuals and Associated Supplemental Data
(DI-ADMN-80925) Revisions to Existing Government Documents (Operator's Manual)
(DI-ADMIN-80925) Revisions to Existing Government Documents (System Maintenance Manual

3.2.2 Technical Data Package (TDP)

The TDP is the technical description of items adequate for supporting an acquisition strategy, production, engineering and logistics support. All changes required from the Weapons Upgrade shall be updated in TDP PRF-PT-00593. The TDP shall disclose complete design, logistics, manufacturing requirements, and the means of measuring compliance with the requirements. Piece part information (drawings, computer aided design files and meta data) and associated lists shall provide the necessary design, engineering, manufacturing, and quality assurance requirements information necessary to enable the procurement or manufacture of an interchangeable item that duplicates the physical and performance characteristics of the original product.

(DI-ADMIN-80925) Revisions to Existing Government Documents (**Commercial Drawings and Associated List)**
(DI-ADMIN-80925) Revisions to Existing Government Documents (Product Drawings and Associated List)

3.3 Quality Engineering

The contractor shall establish measurement points that will provide maximum visibility into new and prior processes to ensure contractual requirements are being met. The contractor shall select the proper methods to analyze these processes to continuously improve the system. Metrics shall be developed to assist management visibility into an adequate process control system. The contractor shall utilize a discrepancy tracking system with the ability to produce complete permanent records of all discrepancies. The contractor shall establish a suspense system to ensure timeliness of analysis and corrective action for discrepancies and risk reduction items.

3.4 Test Discrepancies

The contractor shall follow an established Test Discrepancy corrective action process to ensure timeliness of analysis and corrective action of each test discrepancy. The contractor shall establish a process to receive test discrepancies from any IPT member

and accomplish data entry. Upon closeout of a discrepancy, the contractor's process shall notify the Government designated test director that the discrepancy has been closed and the corrective action taken to correct the discrepancy. The contractor is not responsible for correcting discrepancies related to GFI software issues.

3.4.1 Test Discrepancy Processing

The contractor shall document a detailed description defining the changes made to the equipment, hardware, and software to correct each discrepancy. Each discrepancy correction that modifies or changes any baseline shall be documented and entered in the configuration management system. The contractor shall document and correct any discrepancies that are caused by software that they write for this effort. The contractor shall document all other discrepancies from the GFI software provided by the Government and provide it to the PDSS contractor.

3.5 Information Assurance (IA)

The contractor shall ensure that the design to implement the new weapons system is in accordance with existing program IA objectives, processes and requirements and also in accordance with the DoD Information Assurance Certification and Accreditation Process (DIACAP). Any changes to hardware and/or software shall follow standard DIACAP processes and procedures for CLASSIFIED and SECRET accreditation MAC III to account for all security system changes. This includes selecting validated NIAP and Common Criteria Certified Products. For hardware or software products not listed, the contractor shall get approval from the Government prior to purchasing, installing, or integrating the products into the system. Any changes to the current IA baseline should be brought forward to the Government led IPT for approval.

3.6 Program Management

The contractor shall organize, coordinate, and control all program activities to ensure compliance with the contract requirements and the timely delivery of the required product. The contractor shall provide the necessary program management, systems engineering, design engineering, materials, services, equipment, facilities, testing, technical, logistics, manufacturing, and clerical support for the efforts described for the weapons upgrade in this SOW. The contractor shall monitor the progress of all the work performed under the contract. The contractor shall only submit a single CPSMR that includes all information related to production and all ECPs.

(DI-MGMT-80227) Contractor's Progress, Status and Management Report

3.6.1.1 Work Scheduling

The contractor shall develop, implement, control, and maintain an Integrated Master Schedule (IMS) that presents their plans and schedules to meet the requirements of the weapons upgrade. The contractor shall document the planning and scheduling effort, related Government responsibilities, and the interaction for the efforts required for development and delivery of NCM3 units 1 and 2. Contract deliverables, subcontractor schedules, and dates that the contractor needs support from the Government Subject

Matter Expert (SME) shall be integrated into the contractor's IMS. The contractor shall construct the IMS to ensure that these milestones are met and to ensure deliveries as required by the contract. The contractor shall submit a single IMS for the production effort, weapons upgrade, and all ECPs.

(DI-MGMT-81650) Integrated Master Schedule (IMS)

3.6.2 Technical Interchange Meetings (TIMs)

The contractor shall support TIMs. TIMs shall be conducted as required and/or by the request of the Government. TIMs shall be conducted for the purpose of assessing engineering issues, manufacturing issues, or potential changes that would affect the established production baselines. The contractor shall document the results of the review, including any resulting action items. There shall be a single reoccurring TIM that covers production, weapons upgrade, and all ECPs.

3.6.2.1 Financial Management

The contractor shall plan, budget, schedule, and control the resources allocated to meet the requirements of the contract.

3.7 Safety

The contractor shall implement a safety risk management program to ensure the safety of the design, installation, transportation, maintenance, support, and disposal of the NCM3 trainer without any unacceptable safety hazards. The contractor shall identify hazards, assess the risk, track hazards, mitigate hazards, verify corrective actions have been implemented, and verify hazards have been eliminated or reduced to acceptable risk levels. The contractor shall ensure that all information pertinent to the safety of the NCM3 is available for Government review.

3.8 Spares

The contractor shall deliver spares with each system. Spares shall be packed and delivered with each unit when it is returned to the site. The Government will provide the full list of spares that need to be delivered.

3.9 Weapons Upgrade Accreditation

Production Qualification Test (PQT) shall be performed in accordance with accepted NCM3 PQT procedures. Formal test procedures will be provided by the Government to the contractor and modified as necessary to accommodate for the weapons upgrade. The Government team will monitor the PQT. The contractor shall utilize step-by-step testing operations to be performed on items undergoing testing.

(DI-ADMN-80925) Revisions to Existing Government Documents (Test Procedure)

3.9.1 Test Readiness Review (TRR)

The contractor shall conduct a TRR prior to the start of formal Test Procedure execution. Entrance and exit criteria are described in Appendix A.

Appendix A – Entrance and Exit Criteria

1. System Test Phase Entrance and Exit Criteria

The System Test phase of test and its specific entrance and exit criteria is described below. System testing is comprised of a Contractor Engineering dry run, a contractor QA run, and formal execution of the Test Procedures.

The System Test phase is comprised of two sub-phases. The first sub-phase involves the Contractor Engineering Dry Run of the Test Procedures (TPs). The second sub-phase is the Formal Government execution of Test Procedures.

1.1 Contractor System Test

The first sub-phase of System focuses on a Contractor Engineering dry run. The intent of the Contractor Engineering dry run is to provide early identification of DRs.

The Engineering dry run of a TP subsection can be initiated once the TP has been generated and delivered to the customer. During the Contractor Engineering dry run, the TPs are run by the Contractor Test Director or representative, and supported by Contractor engineering and Contractor aircraft SMEs, as required. During the conduct of the Contractor Engineering dry run, informal TP Discrepancy Reports (ITP DR) are generated, as appropriate. DRs are assigned priorities by the Contractor Test Director, integration leads and Project Engineer. DRs are tracked using a web-based defect management and tracking tool.

Government representatives are invited to observe the Contractor engineering run of TPs. As much notice as possible will be provided with two week notice being the minimum required from Contractor for Government SME support. Any discrepancies noted by Government SMEs during this phase will be captured as informal TP DRs. DRs are assigned priorities by the Contractor Test Director, integration leads and Project Engineer. Contractor will have the authority to close all informal TP DRs. In the event that a Government SME-generated discrepancy is closed, Contractor will notify the Government regarding the closure status and discrepancy resolution.

2. Formal System Test Entrance and Exit Criteria

This test focuses on the System/Subsystem Specifications (SSS) requirements associated with the NCM3 configurations and the Training Environment functionality implemented. The tests will be conducted by the Government with support from Contractor personnel using the approved Test Procedures. A TRR will be held prior to the start of the Formal Government System Test Event to identify the status of the system under test, and to verify the entrance criteria has been met.

2.1 Formal System Test Entrance Criteria

- All Formal DRs documented, Corrective Action Plan(s) developed and reviewed with the Government as part of TRR.

- Informal System Test is satisfied
- All formal priority 1 and 2 DRs closed or approved to proceed with corrective action plan.
- All formal priority 3 DRs closed or have approved workaround solutions.
- All formal priority 4 and 5 DRs documented and reviewed as part of the TRR.
- All Redline DRs have been incorporated into the TP.

The PEO STRI Test Director or appointed representative and Government SMEs, supported by the Contractor Test Director or representative and Contractor SMEs as required, execute the TPs. During the conduct of the TPs, formal TP Discrepancy Reports (FTP DR) are generated, as appropriate. DRs are assigned priorities by the Discrepancy Review Board (DRB) comprised of Contractor and Government personnel using an established process. The Contractor shall maintain CM of the DRs.

2.2 Formal System Test Exit Criteria

The Formal System Test is complete when the following exit criteria have been satisfied.

- All TP sections have been run successfully signifying the system meets the requirements.
- All DRs documented and Corrective Action Plan(s) developed.
- All Formal priority 1 and 2 DRs closed or approved to proceed with corrective action plan.
- All formal priority 3 DRs closed or have Government-approved workaround solutions.
- All formal priority 4 and 5 DRs documented.

2.3 Test Discrepancy Priorities.

The contractor shall assign level of effort to test discrepancies based on the priority codes assigned by the test team, in accordance with the ground rules established by the IPT. The following priorities shall be assigned, with the Government reserving the right to make the final determination of the priority of any test discrepancy:

Priority	**Description**
1	Safety item or system failure
2	Training impact with no approved workaround
3	Training impact with an approved workaround
4	Defect that does not impact training
5	Any other effect (e.g., documentation error, future enhancement)